

WHAT IS CLAIMED IS:

- 1 1. An ink jet recording apparatus, comprising:  
2 a recording head including a nozzle orifice communicated with a  
3 pressure generating chamber;  
4 a pressure generator, which varies pressure of ink in the pressure  
5 generating chamber; and  
6 a controller, which drives the pressure generator to eject ink droplets  
7 from the nozzle orifice such that a plurality of flushing operations are  
8 intermittently repeated with a first time interval, when a recording operation of  
9 the recording head is not performed, each flushing operation including a  
10 plurality of ink ejections repeated for a predetermined times with a second time  
11 interval which is shorter than the first time interval.
- 1 2. The ink jet recording apparatus as set forth in claim 1, wherein an  
2 ejection frequency in a final flushing operation is higher than an ejection  
3 frequency in an initial flushing operation.
- 1 3. The flushing control method as set forth in claim 2, wherein an  
2 ejection frequency in a latter flushing operation is higher than an ejection  
3 frequency in a former flushing operation
- 1 4. The flushing control method as set forth in claim 1, wherein the  
2 repeated number of ink ejection in a final flushing operation is greater than the  
3 repeated number of ink ejection in an initial flushing operation



5 stand-by state which is defined as a time period from when the recording head  
6 stops moving to when the recording head starts moving.

1 11. The ink jet recording apparatus as set forth in claim 10, further  
2 comprising a timer, which measures a time period of the stand-by state,  
3 wherein the repeated number of ink ejections in the respective  
4 flushing operation is determined in accordance with the measured stand-by  
5 time period.

1 12. The ink jet recording apparatus as set forth in claim 10, further  
2 comprising a timer, which measures a time period of the stand-by state,  
3 wherein:  
4 the controller drives the pressure generator to vibrate a meniscus of  
5 ink in the nozzle orifice; and  
6 a vibrating number is determined in accordance with the measured  
7 length of the stand-by time period.

1 13 The ink jet recording apparatus as set forth in claim 1, wherein the  
2 repeated number of ink ejection in the respective flushing operations is  
3 determined in accordance with the type of ejected ink

1 14. The ink jet recording apparatus as set forth in claim 6, wherein a  
2 vibrating number of the pressure generator is determined in accordance with  
3 the type of ejected ink

1 15. The ink jet recording apparatus as set forth in claim 9, wherein a  
2 vibrating number of the pressure generator is determined in accordance with  
3 the type of ejected ink.

1 16. The ink jet recording apparatus as set forth in claim 1, wherein the  
2 pressure generator is a piezoelectric vibrator which changes the volume of the  
3 pressure generating chamber to vary the pressure of ink therein.

1 17. The ink jet recording apparatus as set forth in claim 1, the controller  
2 includes:

3 a drive signal generator, which generates a common drive signal  
4 including a flushing waveform configured to perform an ink ejection and a  
5 meniscus vibrating waveform configured to vibrate a meniscus of ink in the  
6 nozzle orifice; and

7 a drive waveform selector, which applies the flushing waveform and  
8 the meniscus vibrating waveform selectively to the pressure generator.